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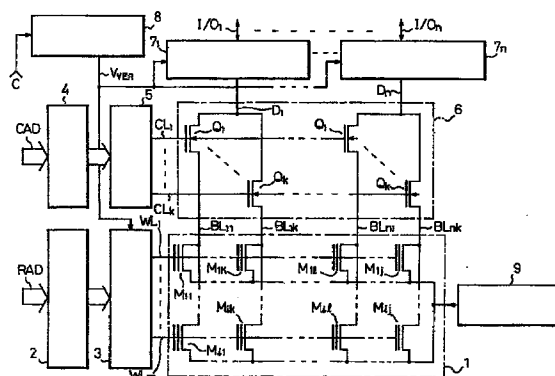
(54) **Nonvolatile semiconductor memory**

(57) A nonvolatile semiconductor memory has circuitry including a matrix (1) of nonvolatile erasable memory cells (M_{ij}) formed at intersections of word lines (WLi to WLn) and bit lines (BLi to BLj , ..., BLn to BLn), a row decoder (3), a column decoder (5), and sense amplifiers ($7i$ to $7n$) connected to the bit lines. The nonvolatile semiconductor memory is adapted for connection, when in use, to an external power source (8) to receive therefrom a normal source voltage (V_{CC}), required by the circuitry (1-7) for performing a normal reading operation on one of the memory cells, and a predetermined verify source voltage (V_{VER}), required by the circuitry for performing a preselected verify operation on one of the memory cells.

During the verify operation the received verify source voltage (V_{VER}) is delivered to a transistor (14) included in the selected sense amplifier ($7i$) that is used for discriminating the data stored in the memory cell being verified and to a word line (WLi to WLn) selected in the operation concerned whilst the received normal source voltage (V_{CC}) is delivered to remaining parts of the circuitry (1-7).

Such a memory can enable the verify source voltage supply capacity of the external power source to be reduced without changing the sensitivity of the sense amplifiers.

Fig.1





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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	K. SEKI ET AL.: "An 80-ns 1-Mb Flash Memory with On-Chip rase/Erase-Verify Controller" IEEE JOURNAL OF SOLID-STATE CIRCUITS, no. 5, 5 October 1990, pages 1147-1151, XP000162797 * page 1147, right-hand column, line 26 - page 1149, left-hand column, line 25; figures 3,6 *	1,16	G11C29/00 G11C16/06
A	US 4 875 188 A (JUNGROTH OWEN W) 17 October 1989 * column 3, line 12 - column 5, line 35; claim 1; figures 2,4 *	1,16	
A	WO 90 12400 A (SUNDISK CORP) 18 October 1990 * page 40, line 27 - page 41, line 31; table 2 *	1,16	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			G11C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 8 March 1999	Examiner Wolff, N
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 12 1759

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The members are as contained in the European Patent Office EDP file on
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08-03-1999

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